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ABSTRACT

To offer insights into scheduling strategies, this paper presents the effects of block scheduling in one rural public secondary school. This case study revolves around three questions: (1) "What prompted the school's move to block scheduling?"; (2) "How was block scheduling implemented?"; and (3) "How has block scheduling affected perceptions of school climate, academics/instruction, and time/materials management for students, teachers, administrators, and guidance personnel?" Interviews were conducted at the school with students, teachers, and administrative/counseling personnel. Results revealed several themes: block scheduling helped students feel more empowered about learning, and teachers reported more empowerment in their instructional role. More assigned homework was being completed, and teachers indicated satisfaction about the demands on their time. Findings indicate that block scheduling basically benefited all students equally, regardless of ability level, attitude toward school, and degree of school success. Students' tardiness decreased and their management of books, materials, and schoolwork improved. The report suggests that supports--materials and supplies--must be provided for the ongoing success of block scheduling. (Contains 13 references.) (RJM)

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Block Scheduling: Does It Make a Difference?

A High School Case Study

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Block Scheduling: Does it Make a Difference?
A High School Case Study

The problem of how to best structure instructional time in secondary schools has been an ongoing topic of professional discourse (e.g., Canady & Rettig, 1995; Davis-Wiley, et al, 1995; Kruse & Kruse, 1995). In a traditionally-scheduled school day, abbreviated time allotments often interrupt the teaching and learning process (National Education Commission on Time and Learning, 1994). Teachers struggle with too many students in classes, a large student "load" per semester, a limited amount of planning time, and multiple course preparations. Students spend precious time in transitions between classes, handling large numbers of books and supplies, and juggling numerous class assignments and requirements. For both teachers and students, the traditional secondary school schedule is often a fragmented, impersonal daily grind of too much to do and too little time in which to do it.

Time problems in secondary schools have caused educators to consider alternatives to traditional scheduling. The most prominent option to date is block scheduling, identified in a national study on high school restructuring (Cawelti, 1994) as one of seven key indicators of major secondary restructuring efforts. This case study investigates a recent implementation of block scheduling in a rural public secondary school. Three questions are addressed: (1) What prompted the move to block scheduling? (2) How was block scheduling implemented? (3) How has block scheduling affected perceptions of school climate, academics/instruction, and time/materials management for students, teachers, administrators, and guidance personnel?

Theoretical Framework

The professional literature emphasizes that the schedule is highly interrelated with climate and teaching methods in a school's overall instructional program (Hackmann, 1995). With block

scheduling, classes meet for a longer than traditional period of time each day (a block) but for fewer than the traditional number of days during the year (Carroll, 1990). It particularly affects three aspects of schooling–academics and instruction, management of time and materials, and climate (Canady and Rettig,1995).

Block scheduling has been praised as a way to reduce problems and enhance performance in secondary education settings, theoretically providing benefits for teachers and students alike (Davis-Wiley, et al, 1995). Many aspects are stress-reducing for teachers, such as fewer students in classes, smaller student loads per semester, increased preparation time, and decreased number of preparations (Canady & Rettig, 1993, 1995; Davis-Wiley, et al, 1995). With fewer demands on their time, teachers are better able to concentrate on experimenting with instructional variety, redesigning instructional delivery, and giving added attention to individual learner needs (Canady & Rettig, 1995).

Having fewer courses at a time also benefits students by minimizing transition time and increasing instructional time, allowing students to more effectively focus their academic efforts (Canady & Rettig, 1993; Kramer, 1996, 1997). Generally, this can lead to better learning and academic performance (Kruse & Kruse, 1995). Additionally, the increased emphasis on student-oriented, interactive instructional strategies boosts student and teacher interpersonal relationships (Canady & Rettig, 1995), suggesting less isolation for everyone (Davis-Wiley, et al, 1995).

Student time/materials management problems are also diminished. Fewer classes, books, materials, places to report to on time, and subjects to simultaneously handle for home study make the school experience less overwhelming (Kruse & Kruse, 1995). The longer daily class periods and quicker classroom pace of block scheduling tend to encourage regular attendance (Canady & Rettig, 1995), while fewer transitions between classes reduce opportunities for discipline incidents

(Kruse & Kruse, 1995). Discipline and attendance can also be positively affected by a more personalized climate, less hectic overall school pace, and reduced stress (Canady & Rettig, 1995).

In the most common form of block scheduling, *intensive* or *4 X 4 block scheduling* (Canady & Rettig, 1995), students attend four 90-minute classes per day and complete each course during one semester. At the onset of the second semester, students take four new courses (Kramer, 1997). Table 1, which follows, collapses major points in the literature into contrasts between traditional and 4 X 4 block scheduling, addressing schedule configuration, instructional differences, and climate factors. At a glance, it illustrates the advantages offered by block scheduling, and why it is considered a major innovation to secondary education.

Methodology and Data Sources

The focus for the present study was a rural public secondary school in the South. Its largely poverty-level population was comprised of 86% black, 13.5% white, and less than 1% Asian and Hispanic students. Although the school contained grades 7-12, the study was limited to the high school grades (9-12), which contained 588 students and a faculty of 37 teachers, 1 librarian, 2 guidance counselors, and 4 administrators.

The impressive school complex was built in 1991 on a 50-acre tract of land. Nine separate brick buildings joined by covered walkways sat on 3 acres of landscaped grounds. For life safety purposes, buildings were separated from one another by fire doors or by distance. Administrative offices, library, and instructional areas were located in the main cluster of 5 buildings, joined by enclosed walkways but separated by fire doors. All of the commercially carpeted classrooms had exterior doors, another safety feature. To the rear of the main cluster were the workshop, music, cafeteria, and gymnasium buildings. Across from a very large paved parking lot, which ran alongside the 9-building complex, was a modern stadium and full athletic field.

TABLE 1

CONTRASTS AT A GLANCE--*Traditional and Block Scheduling*

Dimensions of Contrast	*Traditional Scheduling*	*Intensive (4X4) Block Scheduling*
Teacher's Student Load Per Day	120-160/day for entire year; larger class sizes	60-90/day, per semester; decreased class sizes
Teacher Instructional Time	Six 50-minute periods/day	Three 90-minute blocks/day
Teacher Preparation Time	One class period (50 minutes)	One class period (90 minutes)
Number of Student's Classes per Semester	Seven	Four
Instruction	Teacher-oriented; teachers act as lecturers; time lost in beginning and ending each class	Student-oriented; varied strategies; teachers are coaches, facilitators; better time use
Flexibility and Productivity	Limited by time constraints	Enhanced by time element; varied learning needs can be better addressed
Interpersonal Relationships	Hectic time frame per day and per class period limits interpersonal exchanges	Teachers know students better, can give more individualized attention; students interact more in cooperative activities
Stress Level	Higher because of time crunch and grueling pace	Reduced--fewer courses, class changes; better teacher/student interaction
Number of Disciplinary Incidents	In theory, greater because of more transition times in halls between classes	In theory, fewer because of more interactive class time, less time between classes
School Climate	Face-paced, less personalized	Usually calmer, quieter, more personalized
Classroom Climate	Quiet expected, emphasis on notes/lecture	More activity involved--noisier, more interactive
Student Management of Time and Materials	Can be overwhelming, due to many teachers and class changes, and little time	Diminishes problems by simplifying--fewer classes, teachers, transitions/day

In the five-building front cluster, a commons area, the library, and administrative offices were housed in the core, or resource center. This core was joined by enclosed hallways to two double-wing front buildings and two single-wing rear buildings, with student lockers and modern restroom facilities lining the halls of each winged building. One double wing was used for middle school, while the remaining wings served as high school classrooms and laboratory facilities.

The present case study was conducted in Spring 1997, after 4 X 4 block scheduling had been implemented the previous fall semester. Archival, questionnaire, and interview data were compared from two points in time--fall semester 1995, when a traditional schedule was used, and fall semester 1996, after block scheduling was implemented. Triangulation was used to arrive at general conclusions and a thematic analysis of responses (Gall, Borg, & Gall, 1996).

Archival Data. Archival records provided data for comparison of the first time period (T_1) and the second time period (T_2) on attendance figures, and on numbers of disciplinary incidents, suspensions, and students on honor rolls. Content analysis (Patton, 1990) was used for appraisal.

Questionnaire Data. The researcher-prepared questionnaire was administered randomly to 1 homeroom of students per grade level, and to 2-3 teachers per grade level. Participants numbered 65 students (11% of the student body) and 11 teachers (29.7% of the teaching faculty). Respondents indicated which type of scheduling (traditional or blocked) they thought best answered each item, or if there was no difference between scheduling types on the item. Items 1 through 23 were structured to gain information on climate, academics/instruction, and time/materials management, while a final item asked respondents to indicate scheduling preference. Table 2 presents demographic data for questionnaire participants.

Interview Data. Interviews were conducted at the school with students, teachers, and administrative/counseling personnel. Topic areas stemmed from initial questionnaire items. The

TABLE 2

Questionnaire Participant Demographics

Respondent	*Male*	*Female*	*Black*	*White*
Students (n = 65)	48%	52%	95%	5%
Teachers (n = 11)	18%	82%	55%	45%

interview protocol involved open-ended questions on five aspects of school climate (safety, happiness, noise levels, relationships, discipline); six aspects of academics/instruction (grades and learning, participation in class, attention toward learning, teaching styles/activities, teacher assistance to students, importance of academics); and five aspects of time/materials management (books/supplies, assignments/homework, deadlines, organization, punctuality). Items such as these were used: (1) How have your feelings of safety been affected by the scheduling change? (2) How has block scheduling affected your earned grades and learning of subject matter? (3) What differences occurred in how you manage homework, assignments, books, and supplies since block scheduling began? Member checks were used to confirm accuracy of data, which was analyzed using the constant comparative method (Lincoln & Guba, 1985). Depth was added in interviews with teachers, administrators, and counseling personnel (Yin, 1994).

As Patton (1990) recommends, a general interview guide approach was utilized to cover the same material with all respondents, focusing on predetermined subjects and allowing for open-ended responses. A conversational style was used, appropriate to respondent maturity, ability, and educational levels. Participants were assured no names would be used, and that all data would be aggregated in the final report. Interviews were conducted individually in a private area, with approximately 15 total hours spent in actual interviewing.

Total interview participants numbered 20. Selected were 1 male and 1 female student per grade level, plus 4 others at large. These 12 students represented both races, as well as different attitudes toward school, degrees of school success, and ability levels. Also selected were 4 high school teachers who were representative of the faculty in terms of teaching area, experience, and professional attitude. Selected as the final 4 participants were administrative and counseling personnel–the principal, the vice-principal (academics), an assistant principal (discipline), and a counselor. This group represented two-thirds of the administrative/counseling pool of personnel at the school. Table 3 presents demographics for the interview participants.

TABLE 3
Interview Participant Demographics

Respondent	*Male*	*Female*	*Black*	*White*
Students (n = 12)	67%	33%	75%	25%
Teachers (n = 4)	25%	75%	100%	0%
Adm. and Counseling (n = 4)	50%	50%	50%	50%

Findings

Results are presented using the case study questions: (1) What prompted the move to block scheduling? (2) How was block scheduling implemented? (3) How has block scheduling affected perceptions of school climate, academics/instruction, and time/materials management for students, teachers, administrators, and guidance personnel? Questions #1 and #2 were answered using the Alternative Scheduling Proposal (Spring 1996), developed by school personnel. The proposal detailed reasons for considering a new scheduling configuration and the time line leading to the formal alternative scheduling proposal. Interviews with adult participants added depth.

Question #1: What prompted the move to block scheduling? After operating for 5 years on a 7-period, 50-minute day, school personnel re-evaluated traditional scheduling in light of changing technology, alternative teaching methods, and a highly at-risk population. In terms of student academic performance (i.e., honor roll eligibility, standardized testing performance), the school was falling short in its goal of greater student success. Students were frustrated and showing disinterest in school. Discipline problems were also a concern, as was the high teacher turnover rate at the school.

Block scheduling offered features which were in line with what school personnel envisioned as possible solutions to school problems. Students could devote concentrated effort to fewer subjects at one time. The 90-minute blocks would encourage wider variety of non-traditional instructional strategies. Teachers would have more time to devote to individual student problems. With added productive classroom time and diminished unproductive time in transitions between classes, the school could possibly realize a higher quality of instruction, added student success, and increased numbers of positive relationships. These developments could in turn aid school-wide disciplinary efforts.

Question #2: How was block scheduling implemented? School administrators and counselors began investigating alternative schedules in fall 1994, and a committee composed of parents, teachers, students, and administrators was formed to study issues related to scheduling. Following several visits to schools where other scheduling plans were being used, a 4 X 4 block schedule was piloted in the school for one week in March 1996.

Upon completion of the trial schedule week, a preliminary faculty consensus survey revealed 93% of teachers believed reducing the number of classes per day increased productivity, and 83% perceived stress reduction as a beneficial outcome of block scheduling. The committee

and then the School Board approved the alternative block schedule. School personnel developed and presented the Alternative Schedule Proposal to the State Education Agency (SEA), which submitted the proposal to the State Education Board for approval.

Information provided by adult interview participants gave further insight. Although most of the faculty favored the move to block scheduling and viewed it as a positive step, some were skeptical about it. Initial inservicing efforts concentrated on presenting the block format, including a presentation with question-answer session by a team from a block-scheduled school. Staff development dedicated to increasing instructional repertoires, however, was minimal. Teachers were told to prepare as much as possible over the summer vacation months.

Staff development concerns included the high faculty turnover rate which occurred each year, and whether to conduct inservicing in spring or wait until fall when teaching slots had been filled. During the trial schedule, those for whom application was already an integral part of the instructional plan, and those trained through a statewide initiative dedicated to expanding instructional repertoires, seemed most productive and comfortable with the new format.

Question #3: **How has block scheduling affected perceptions of school climate, academics/instruction, and time/materials management for students, teachers, administrators, and guidance personnel?** Results for this question are organized around its three elements: (1) Climate, (2) Academics/Instruction, and (3) Time/Materials Management. One section includes results of teacher and student preferences expressed in questionnaires, and of preferences expressed by all three groups in interviews.

Dimension #1--Climate. This section uses archival, questionnaire, interview, and observational data. Table 4 presents archival data, which indicates attendance declined slightly during T_2, a finding inconsistent with predictions in the literature. Attendance figures from T_1 to

T_2 showed a range of -1.86% to -2.15% for the three six-week periods. But administrative and counseling personnel claimed some student and parent attitudes toward attendance changed during T_2. Explaining in interviews that excessive absences occurred in prior years, often with parental enablement, administrators made statements such as these: "Absences are a concern now, and parents seem more eager to help with attendance problems," and "Students seem very concerned about missing classes." Since more material was covered per day, it seems absences became more problematic during T_2 for students who wanted to succeed, thus more of a concern to them and their parents--a positive result which can in turn positively affect student success.

TABLE 4
Archival Data on Climate

A COMPARISON OF TWO FALL SEMESTERS (T_1 and T_2)			
Dimension of Contrast	*Fall Semester 1995-96 (T_1)*	*Fall Semester 1996-97 (T_2)*	*% Increase (+) % Decrease (-)*
Attendance 1st Six-Weeks	92.80%	90.65%	-2.15%
2nd Six-Weeks	89.39%	87.53%	-1.86%
3rd Six-Weeks	87.17%	85.22%	-1.95%
9-12 Students Suspended	34	92	+ 170.5%
Number of Incidents	36	179	+ 397.0%
9-12 Students on Honor Roll:			
2nd Six-Weeks Period	129	180	39.5%
3rd Six-Weeks Period	101	175	73.0%

The data were inconsistent regarding student discipline. Archival data indicated discipline at the school worsened significantly from T_1 to T_2, but questionnaire and interview data indicated discipline improved or stayed the same. Personnel changes may have affected archival results. Only one of the three disciplinarians during T_1 still served in that position during T_2, and in most discipline systems, the judgment of an individual disciplinarian plays a pivotal role in classifying

offenses and in deciding whether to record an offense or give a student a warning. Additionally, a new principal was appointed and assumed his duties in August 1996, after T_1 but prior to T_2.

Interviews with all groups of respondents pointed to a crackdown on discipline during T_2, another possibility for the conflicting data. There was a push for a more accountable discipline system, with more aggressive enforcement of all discipline policies in general. A new, tougher tardy policy was put into effect. With more stringent criteria for classifying suspendable offenses, by-standers who encouraged fights were for the first time suspended along with the fighters. An administrator claimed, "Suspensions and expulsions came to an all-time high this year at the beginning, because [it] was heavily enforced to get students' attention."

Table 5 includes survey data regarding climate. Approximately 92% of students indicated there were fewer disciplinary incidents during T_2, or there was no difference between T_1 and T_2 in frequency of disciplinary incidents. Teachers (72.7%) likewise indicated fewer discipline incidents during T_2. Additionally, 40% of students and 72.7% of teachers thought discipline incidents were of a less serious nature during T_2. While a majority of students (63.1%) indicated there was no difference between T_1 and T_2 as to likelihood of student misbehavior, 32.3% of students and a majority of teachers (82%) thought there was less likelihood of misbehavior in T_2 than in T_1.

Responding to the statement, "In general, I feel safer at school," a majority of surveyed teachers (72.7%) indicated their feelings of safety were greater during T_2. Nine of the total interview participants (45%), evenly divided among the three groups, indicated a positive change in feelings of safety during T_2, due to less activity in halls, unsupervised roaming of students between classes, and more time in classrooms. A majority of surveyed students (70.8%), and 55% of all interview respondents, indicated no difference between T_1 and T_2 as to feelings of safety. No respondent evidenced any real alarm about the issue of safety and security.

TABLE 5

Student and Teacher* Survey Data on Climate (in Percentages)**

Item	*Student Responses*			*Teacher Responses*		
	Trad.	*Block*	*NoDiff*	*Trad.*	*Block*	*NoDiff*
There are fewer discipline incidents.	7.7%	44.6%	**47.7%**	9.1%	**72.7%**	18.2%
Discipline incidents are of a less serious nature.	6.2	40.0	**53.8**	0.0	**72.7**	27.3
There is less likelihood of student misbehavior.	4.6	32.3	**63.1**	0.0	**81.8**	18.2
In general, I feel safer at school.	1.5	27.7	**70.8**	0.0	**72.7**	27.3
The halls and campus seem quieter.	3.1	33.8	**63.1**	0.0	**81.8**	18.2
Everyone seems happier.	6.1	38.5	**55.4**	0.0	**90.9**	9.1
Teachers and students get along better.	9.2	29.2	**61.5**	0.0	**63.6**	36.4
It is easier for teachers and students to discuss problems.	1.5	**69.2**	29.2	0.0	**100.0**	0.0
Classmates get along better.	4.6	30.8	**64.6**	0.0	**63.6**	36.4

*Small number of respondents (11) results in large percentage effect each response.

**Percentages may not add to 100 due to rounding

Although a majority of surveyed students indicated no change in either noise levels (63%) or happiness levels (55%), surveyed teachers indicated overwhelmingly (92%) that both had improved in T_2. Fifteen of the 20 total interview participants echoed this.

Teacher survey results indicated improved student peer relationships (63.6%), student-teacher relationships (63.6%), and ease in discussing problems with students (100%) during T_2. A majority of surveyed students perceived no difference between T_1 and T_2 in student peer relationships (61.5%) or student-teacher relationships (64.6%), but 69.2% indicated it was easier for teachers and students to discuss problems in T_2.

Interviewed teachers did not perceive any differences in their relationships with colleagues during the two time periods, but all administrative/counseling respondents indicated teacher peer relationships had benefitted from the scheduling change. Regarding student peer relationships, 5 of the 12 interviewed students thought there was no difference between T_1 and T_2, while a majority of students (7 of 12) and all 8 of the interviewed adults indicated relationships were better in T_2. No one indicated student peer relationships had deteriorated during T_2. A majority of students (7 of 12) and all 8 adults indicated in interviews that student-teacher interpersonal relationships had also improved during T_2. The following responses were offered by a student, a teacher, and 2 administrators, respectively.

> Staying in classes longer means students and teachers, and students with other students, get to know each other better.
>
> More time and grouping within the classroom is better for student relationships. They interact better with each other.
>
> Teacher peer relationships are better. They are more open with one another, departments are more solidified. More time has facilitated teacher-student relationships. Both teachers and students feel more empowered.
>
> Teacher peer relationships are also better. They're working together, sharing ideas.

Observational data were also collected for the present study. A total of four visits were made to collect data, three of shorter duration and occurring at different times of the school day. There were no contradictions noted to observations made on the one full day spent at the school. Students moved purposefully when bells sounded, and noise levels were acceptable. During major student movement times, administrators stood in the front hallway and disciplinarians were seen in hallways and on the grounds. When moving from building to building, students used

outside covered walkways. The few students who entered the commons area went to the office, the library, or moved from building to building on the high school wings.

During lunch time, two separate food lines processed through the cafeteria at a reasonable pace, and teachers were strategically positioned for supervision. Duty teachers were also vigilant during recess, student behavior was within acceptable limits, and no altercations were observed. When tardy bells rang at the end of transition times, most students were in classrooms and the doors closed. There appeared to be a routine vigilance practiced by school professionals, who ended the day on bus duty outside.

Dimension #2--Academics/Instruction. This section primarily utilizes data collected through surveys and interviews, although archival data is also used. Table 6 presents results of the student and teacher questionnaires on academics/instruction items.

Table 4 presents archival data, showing dramatic increases from T_1 to T_2 in numbers of high school students on honor rolls in second (39.5%) and third (73%) six-week grading periods. Across the board, survey results indicated a majority of both students and teachers perceived more academic and instructional benefits in T_2. Teachers unanimously reported experimenting more with instructional approaches, and that students had more opportunities to think critically and analytically in T_2. A majority of students (69.2%) indicated learning seemed easier in T_2.

Interview results were likewise positive, with 11 of 12 students and all adult respondents perceiving T_2 conditions as more conducive to earning good grades and learning subject matter. Two of the following responses were offered by students, followed by 2 teacher responses

> Grades are up because we can concentrate better on fewer classes
>
> More subject matter is covered well and there's more feedback, so students are learning more.

Poorer students are doing better with increased hands-on.

Fewer classes have helped students condense their efforts. I think better learning is contributing to better grades. The longer block helps.

TABLE 6
Student and Teacher* Survey Data on Academics/Instruction (in Percentages)**

Item	*Student Responses*			*Teacher Responses*		
	Trad.	*Block*	*NoDiff*	*Trad.*	*Block*	*NoDiff*
Learning seems easier.	1.5%	**69.2%**	29.2%	N/A	N/A	N/A
Students seem to make better grades.	10.8	**76.9**	12.3	0.0	**72.7**	27.3
Students understand lessons better.	0.0	**80.0**	20.0	0.0	**90.9**	9.1
Students focus more on schoolwork.	4.6	**55.4**	40.0	0.0	**90.9**	9.1
In terms of both amount and quality, students learn more under this type scheduling.	0.0	**81.5**	18.5	0.0	**90.9**	9.1
Students participate more in class.	4.6	**56.9**	38.5	0.0	**100.0**	0.0
Students have more opportunities to think critically and analytically.	N/A	N/A	N/A	0.0	**100.0**	0.0
School seems more focused on learning.	1.5	**58.5**	40.0	0.0	**81.8**	18.2
I experiment more with new instructional approaches.	N/A	N/A	N/A	0.0	**100.0**	0.0
Better teaching goes on in class.	4.6	**63.1**	32.3	0.0	**90.9**	9.1
Class activities are more varied.	3.1	**73.8**	23.1	0.0	**100.0**	0.0
Teachers can provide more help to students.	3.1	**81.5**	15.4	0.0	**100.0**	0.0

*Small number of respondents (11) results in large percentage effect each response.
**Percentages may not add to 100 due to rounding

Interview results indicated 10 of 12 students, and 7 of 8 adults, thought student classroom participation was better during T_2. Ten students said there was less homework during T_2, but mostly because there is more classwork which gets the work done. All 4 teachers, and 3 of 4 administrative/counseling respondents, felt the increased class time had changed the dynamics of homework and class assignments, that more was being done in the classroom. This is illustrated by the following 3 teacher and 3 administrator responses.

> Students seem to participate better and have more confidence with this. Home assignments are being done more successfully because they understand better in class.

> Because of time, many classes don't have as much homework but have more classwork. Class participation has not changed insofar as discussion but has increased with hands-on activities.

> My accounting class in the fall was the best I've ever had. There was more one-on-one. I modified my teaching delivery, and there was a big difference . . . more class participation. My students did more assignments in class and less overnight.

> There's more opportunity for homework in block with teachers monitoring, so students are doing better. Variety of activities going on in classes is giving students chances for more participation, also more chances for cooperative group learning.

> Homework [is] begun in class, so kids have less to take home. Teachers can supervise and facilitate completion. Student participation is greater because they are given more opportunities for participation during the 90-minute period.

Additionally, T_2 was perceived by 9 of 12 students, and all 8 adult respondents, as providing more variety in both classroom activities and teaching styles. The following responses were offered by 2 students and a counselor, respectively.

> Usually, there are more activities. Much more group, making games out of our work, more time to go to the board. Group activities help out a lot because sometimes we can learn well from other students.

> There is a difference with activities. We are constantly working in the classroom. Other than that, no change in teaching styles.

> There's been a big change here. More visuals are being used, more projects, posters, plays, pictures, displays of artwork and projects. More lab work, more activities.

Interviews revealed both attitudes toward learning (8 of 12 students, 6 of 8 adults) and awareness of the importance of academics (9 of 12 students, 5 of 8 adults) were perceived by a majority of respondents to have improved during T_2. This is indicated by the following responses, offered by 3 students, a teacher, and a counselor, respectively.

> Students seem more eager to learn, teachers seem more eager to teach.

> There's more work to do with this type schedule. Some students don't like to work, but some students are more interested in learning because teachers take more time with students.

> Some problem kids from last year are actually trying this year--a change for the better, I think. The participation level is better, there are more opportunities for earning grades, and there is more motivation in general.

> Block time allows more chances to relate classroom instruction to everyday life, so students are more interested in doing well.

> Teachers have always thought academics are important. Kids seem more concerned. They're asking for review materials and for help. This is a big change from the past. Kids are asking for help to get on level.

The most convincing interview response indicated teachers were providing more student assistance during T_2. All 8 adults, and 11 of 12 students, expressed satisfaction with the added time element and more teacher assistance for students. The following 3 responses were offered by a teacher, a student, and a counselor, respectively.

> I have much more time to help them, and they are responding to this well.

> Teachers are helping a lot more. That really helps me.
>
> I think teachers are helping students more. Teachers have told me what they're doing for their kids, asking me for materials. Kids have told me about teachers helping them, giving them materials. We did a much better job helping kids with basic skills this year.

Dimension #3–Time/Materials Management. This section utilizes student and teacher survey data (See Table 7), as well as interviews with the three participant groups. Survey results indicated a majority of students were more organized (80%) in T_2, but saw no differences between T_1 and T_2 regarding punctuality (53.8%). A majority of teachers indicated both organization (90.9%) and punctuality (81.8%) were enhanced during T_2. Interview results indicated participants unanimously felt conditions during T_2 facilitated better organization due to fewer classes.

Also in interviews, 8 of 12 students, and 5 of 8 adults, indicated it was easier during T_2 to meet deadlines and to be punctual. The first 2 responses below were offered by students, followed by 2 administrator responses.

> It seems to be easier. We have enough time to get everything done.
>
> This is better because now we only have four classes. I haven't gotten any tardies this year.
>
> Kids are doing better. There's a new tardy system in force which helps with this. Five minutes between classes is adequate. Fewer changes between classes helps this.
>
> That's better. They're getting to classes on time better. Tardies have been cut in half, I would say. This is partly due to block, partly due to new policy on tardies.

As to homework, 76.9% of surveyed students indicated this was easier to manage during T_2. More classroom time greatly helped the former homework apathy problem at the school by moving the arena for beginning assignments from home to classroom. Interviewed students

indicated better understanding resulted from teacher assistance when homework was begun in the classroom before being attempted at home.

> Many more people have their homework now. This is better because we can get started in class and can understand what we're doing.

> Homework and assignments are easier. Four subjects take less time than seven subjects. The amount of this is pretty much the same.

TABLE 7

Student and Teacher* Survey Data on Time/Materials Management (in Percentages)**

Item	*Student Responses*			*Teacher Responses*		
	Trad.	*Block*	*NoDiff*	*Trad.*	*Block*	*NoDiff*
I am more organized.	3.1%	**80.0%**	16.9%	0.0%	**90.9%**	9.1
Everyone seems better able to be on time.	1.5	44.6	**53.8**	0.0	**81.8**	18.2
Homework is easier to manage.	1.5	**76.9**	21.5	N/A	N/A	N/A
Students keep up better with books and supplies.	6.2	**64.6**	29.2	0.0	**63.6**	36.4

*Small number of respondents (11) results in large percentage effect each response.
**Percentages may not add to 100 due to rounding

Interviews revealed 8 of 12 student respondents and all adult respondents thought student ability to keep lockers, bookbags, and desks organized was also positively impacted during T_2. With fewer books and supplies to manage, many students did not choose to rent lockers, opting to carry everything each day. One student said block scheduling helped him, simply because "less is better for me." The following were typical student responses.

> We don't have as many books and notebooks. Fewer articles make it easier.

> It's easier because we only have four classes instead of seven classes. We have less to carry around.

> More books and supplies are being brought to class. With fewer books, it's easier to manage.

> It's changed. We don't lose books because there's not that many to lose. It's easier to keep up with them.

Preferences of Survey and Interview Participants. Both surveys and interviews asked for respondent preference, with the interview protocol allowing an open-ended format. All sampled groups indicated a strong preference for block scheduling, with surveyed and interviewed teachers doing so unanimously. Interviewed students were also unanimous in selecting block scheduling, while surveyed students chose it by a wide margin (85%) over traditional scheduling.. As favorite features of block scheduling, interviewed students noted better understanding of subject matter, more teacher assistance, more time for learning, and fewer classes--all of which make school easier for them. One student's response labeled traditional scheduling "too stressful."

Teachers cited fewer preparations, more planning time, fewer students in classes, and more classroom time for activities. A teacher response indicated block scheduling prompted a change in students: "More individual attention has motivated them." Also unanimously choosing block scheduling were administrative/counseling personnel, who preferred the increased instructional time, decreased transition time, and strengthened teacher planning. A member of this group stated, "We're changing for the better with this."

Additional Responses. All adult interview participants were asked an additional question to enrich this case study: *Was there adequate in-servicing before/since block scheduling was begun?* All eight respondents indicated staff development was inadequate, as reflected in these two typical responses by a teacher and an administrator:

> Not adequate. A few people came who were in the block to speak with us, but we need more time management help. We need more extra materials, too. We need overhead projectors, VCRs, etc.

We conducted staff development in the second week of August and did needs assessments of all departments. But we need more in-servicing.

Discussion and Implications

Using survey, interview, and archival data, several themes emerged. *Students felt more empowered about learning*. The changed dynamics of homework, fewer subjects to deal with at a time, better grades earned increasingly from varied activities and not always from tests, and a better grasp of concepts diminished student stress and made students feel better about school. A big factor in improved student attitudes toward learning seemed to be the additional help students got from teachers during the longer class segments. Better student-teacher interpersonal relationships may also have contributed to student feelings of empowerment about learning.

Teachers reported more empowerment in their instructional role, with more time to plan for and implement a variety of instructional strategies during T_2. Adult respondents indicated increased teacher interest in sharing of ideas and materials, that teachers were learning to collaborate with one another in planning for expanded time segments. Teachers indicated satisfaction with the scheduling configuration, their ability to spend more time with students on individual problems, increased student motivation to learn, and the added time to begin homework assignments in class. Previously, many students failed to do homework. During T_2, more assigned homework was being completed, with students claiming a better understanding of how to proceed. Teachers also indicated satisfaction about the demands on their time--of being able to concentrate their efforts on fewer preparations, having more planning time, and having longer instructional time segments with students.

Results from all data sources indicated *block scheduling basically benefits all students equally*, regardless of ability level, attitude toward school, and degree of school success. With

reduced stress and enhanced instruction, block scheduling helped all students deal better with the many demands of high school. Across the board, students indicated they did better during T_2.

Finally, *supports must be provided for the ongoing success of block scheduling*. Adult participants expressed in interviews a need for adequate materials, equipment, and supplies, and although this may present budgetary problems, it must be addressed to assure future success. Adult interview respondents also expressed the vital need for continued inservicing. A viable staff development program at the school would benefit all teachers, but particularly those with less experience or who evidence difficulties with instruction, discipline, or organization. The high annual teacher turnover rate at the school provides further justification for well-planned, ongoing staff development.

A study of this type, which focuses on a single case, is not conducive to making generalizations, but it can generate questions and aid others in similar situations. It is important to note as a limitation to this research that a one-year program evaluation can be considered premature. This research should be followed up in two or three years.

Did block scheduling make a difference at this secondary school? Since block scheduling was implemented, less time fragmentation and fewer subjects contributed to better student academic performance. Student ability to get to class on time, and student management of books, materials, and schoolwork, were also positively impacted. Additionally, elements of the climate were strengthened, giving the school a more personalized and manageable environment in which to operate. The data generated from multiple sources and procedures indicated that, in this case, block scheduling seemed to make a difference.

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